

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION OF

Confirmation No.: Unknown

Gunaratnam et al.

Group Art Unit: 3761

Cont. of Appln. No.: 09/504,220

Examiner: M. Patel

Filed: Herewith

Title: MASK AND HEADGEAR CONNECTOR

March 6, 2002

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PRELIMINARY AMENDMENT

Hon. Commissioner of Patents
Washington, D.C. 20231

Sir:

Before examination on the merits, please amend the above-identified application as follows:

IN THE SPECIFICATION:

Page 1, line 1, please insert the following new paragraph

--CROSS REFERENCE TO RELATED APPLICATIONS

This application is a continuation of U.S. Application No. 09/504,220, filed February 15, 2000, allowed, which is a Continuation-in-Part of U.S. Design Application No. 29/115,618, filed December 16, 1999, now Design Patent No. 443,355, the specifications and drawings of which are incorporated herein by reference.--

See the attached Appendix for the changes made to effect the above paragraph

IN THE CLAIMS:

Please cancel claim 1 without prejudice.

Please add the following new claim(s):

21. A respiratory mask and headgear combination comprising:

a respiratory mask having a rigid mask frame, adjustable headgear for securing said mask on a patient, said headgear including at least one attachment strap, said mask frame having rigidly secured thereto a rigid first connector portion, and a second connector portion adapted for releasable mating with said first connector portion, wherein

said first and second connector portions form a press-release connection between said mask frame and said strap;

said first connector portion is a female connector formed in one piece with said mask frame; and

said second connector portion is a corresponding male connector.

22. A respiratory mask and headgear combination according to claim 21, wherein the male connector portion includes a resiliently biased cantilever member depending from a leading end portion of said male connector portion.

23. A respiratory mask and headgear combination according to claim 22, wherein said cantilever member has a leading end, a trailing end, a locking portion, located intermediate said leading end and trailing end, structured to engage with said first connector, and release portion located adjacent said trailing end.

24. A respiratory mask and headgear combination according to claim 23, wherein said release portion comprises a raised portion adjacent a trailing end of said cantilever member.

25. A respiratory mask and headgear combination according to claim 25, wherein a space is provided immediately behind said trailing end of the cantilever member.

26. A respiratory mask and headgear combination according to claim 23, wherein said locking portion comprises at least one lug on a forward surface of said cantilever member, said lug engaging a corresponding socket of said first connector portion.

27. A respiratory mask and headgear combination according to claim 21, wherein said first and second connector portions are structured to be spaced forwardly of the patient's face by said rigid mask frame.

28. A respiratory mask for use with a headgear having male connectors thereon, each of the male connector portions including at least one resiliently biased locking element, the respiratory mask comprising:

a mask frame; and

a pair of female connector portions formed in one piece with the mask frame and being configured to receive the male connector portions therein.

29. A respiratory mask and headgear combination according to claim 28, wherein the mask frame includes a front wall portion defining a forward end of the mask frame, the front wall portion having a circular gas inlet aperture configured to connect to a gas delivery conduit, the mask frame including a pair of inclined side wall portions and a base portion, each of the side wall portions and the base portion having a portion thereof connected to the front wall portion.

30. A respiratory mask and headgear combination according to claim 29, wherein the mask frame includes a rim at rear edges of the inclined side wall portions and the base portion, the rim defining a rearward end of the mask frame and being configured to allow a cushion to be attached thereto.

31. A respiratory mask and headgear combination according to claim 29, wherein each of the female connector portions includes a generally oblong slot, each generally oblong slot being formed by a first wall structure that is disposed between respective side wall portions and the base portion, a pair of parallel spaced opposing wall structures extending generally perpendicularly from the first wall structure and a second wall structure extending between and connected to the pair of spaced opposing wall structures, the second wall structure being spaced from and generally parallel to the first wall structure, each of the first and second wall structures and the pair of spaced opposing wall structures having an inward end portion and an outward end portion defining a direction that extends generally radially

outwardly relative to the circular gas inlet aperture, the outward end portions defining the generally oblong slot therebetween.

32. A respiratory mask and headgear combination according to claim 31, wherein the second wall structure includes at least one recess extending therethrough configured to cooperate and receive the at least one resiliently biased locking element of the respective male connector portions, the at least one recess being formed adjacent each generally oblong slot.

33. A respiratory mask assembly comprising:

- a headgear structure including at least one elongate strap, each end of the elongate strap being doubled over to form a loop;
- a pair of male connector portions attached to the elongate strap, each of the male connector portions including a trailing portion that has a pair of spaced side portions and a cross bar extending transversely therebetween to define a strap receiving aperture configured to allow the strap to pass therethrough so that the crossbar is disposed within the loop of the strap, each of the male connector portions also including a leading portion that has a pair of longitudinally extending side beams spaced slightly inwardly from the side portions, the leading portion including a cross piece extending between the side beams and defining a leading edge of the male connector portion, the leading portion of each male connector portion also including a cantilevered member extending from an intermediate portion of the cross piece toward the trailing portion of the male connector portion, the cantilevered member being movable between deflected and undeflected positions and being resiliently biased toward the undeflected position, the cantilevered member including a locking element extending outwardly therefrom, the locking element being positioned on the cantilevered member generally spaced from the cross piece, the leading portion of each male connector portion including a ridge structure adjacent the trailing portion and extending generally perpendicularly relative to the side beams;
- a mask frame; and
- a pair of female connector portions formed in one piece with the mask frame and being configured to receive the male connector portions therein.

34. The respiratory mask assembly of claim 33, wherein the mask frame includes a front wall portion defining a forward end of the mask frame, the front wall portion having a circular gas inlet aperture configured to connect to a gas delivery conduit, the mask frame including a pair of inclined side wall portions and a base portion, each side wall portion and the base portion having a portion thereof connected to the front wall portion.

35. The respiratory mask assembly of claim 34, wherein the mask frame includes a rim at rear edges of the inclined side wall portions and the base portion, the rim defining a rearward end of the mask frame and being configured to allow a cushion to be attached thereto.

36. The respiratory mask assembly of claim 33, wherein each of the female connector portions includes a generally oblong slot, the generally oblong slot being formed by a first wall structure that is disposed between respective side wall portions and the base portion, a pair of parallel spaced opposing wall structures extending generally perpendicularly from the first wall structure and a second wall structure extending between and connected to the pair of spaced opposing wall structures, the second wall structure being spaced from and generally parallel to the first wall structure, each of the first and second wall structures and the pair of spaced opposing wall structures having an inward end portion and an outward end portion defining a direction that extends generally radially outwardly relative to the circular gas inlet aperture, the outward end portions defining the generally oblong slot therebetween.

37. The respiratory mask assembly of claim 36, wherein the second wall structure includes at least one recess extending therethrough configured to cooperate and receive the at least one resiliently biased locking element of the respective male connector portion, the at least one recess being formed adjacent the oblong slot.

38. The respiratory mask assembly of claim 27, wherein the leading portion of each male connector portion is capable of being passed through the oblong slot of the respective female connector portion, such that the leading portion is disposed substantially between the first and second wall structures and substantially between the pair of spaced opposing wall structures, including the pair of longitudinally extending side beams being disposed between and generally parallel to the respective pair of spaced opposing wall

structures, the cross piece being disposed proximate and generally parallel to the inward end portion of the first wall structure, the cantilevered member extending substantially between the first and second wall structures, the locking element being positioned within the recess, and the trailing portion being disposed adjacent to the outward end portions of the first and second wall structures and the spaced opposing wall structures.

39. A respiratory mask and headgear combination comprising a respiratory mask having a rigid mask frame, headgear for securing said mask on a patient, said headgear including at least one attachment strap, said mask frame having rigidly secured thereto a rigid first connector portion and a second connector portion adapted for releasable mating with said first connector portion, wherein

 said first and second connector portions form a press-release connection between said mask frame and said strap;

 said first connector portion is a female connector formed in a piece with said mask frame; and

 said second connector is a corresponding male connector.

40. The respiratory mask and headgear combination of claim 39, wherein said male connector includes a resiliently biased cantilever member depending from a leading end portion of said male connector.

REMARKS

Claims 21-40 are pending. By this Preliminary Amendment, claim 1 is cancelled herein and claims 21-40 are added. The specification has been amended to refer to the continuation data.

Prompt and favorable examination is earnestly solicited.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached Appendix is captioned "Version with markings to show changes made".

Respectfully submitted,

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Enclosure: Appendix

APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

The specification is changed as follows:

Page 1, line 1, please insert the following new paragraph

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